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WHAT IS LOGIC?

By Joseph G. Anderson.

Logic has been defined as the science of reasoning, the science of thought as thought, the science of knowledge, and in many other similar ways. These definitions have this in common, that they all assume Logic to be a mental science, that is, a science which treats of the operations or products of the human mind.

My view, however, is that Logic is a science of things; that it is an objective and not a subjective science; that it treats of things, and not of the thoughts or ideas, or notions of them, in the human mind; that it considers things in general in the same sense and as directly as any of the physical sciences, for instance, consider the particular things which are their subject-matter.

Which is the correct view?

Names or terms, propositions and syllogisms, are universally used to express the subject-matter of Logic. It follows that, if we determine what these express, we shall have determined that subject-matter. As to what names and propositions express, there are two opinions: one is that names express things, and propositions facts; the other is that names express our notions or ideas of things, and that propositions express acts of judgment. These views are ably discussed by John Stuart Mill. He says: "There seems good reason for adhering to the common usage, and calling the word 'sun' the name of the sun, and not the name of our idea of the sun. For names are intended not only to make the hearer conceive what we conceive, but also to inform him what we believe. Now when I use a name for the purpose of expressing a belief, it is a belief concerning the thing itself, not concerning my idea of it. When I say, 'the sun is the cause of day,' I do not mean that my idea of the sun causes or excites in me the idea of day; but that the physical object, the sun itself, is the cause from which the outward phenomenon day follows as an effect. It seems proper to consider a word as the name of that which we intend to be understood by it when we use it; of that which any fact that we assert of it, is to be understood of; that, in short, concerning which, when we employ the word, we intend to give information."* "Propositions * * * are not assertions respecting our ideas of things, but assertions respecting the things themselves. In order to believe that gold is yellow, I must indeed have the idea of gold and the idea of yellow, and something having reference to those ideas must take place in my mind; but my belief has not reference to the ideas, it has reference to the things. What I believe is a fact relating to the outward thing gold * * * not a fact relating to my conception of gold, which would be a fact in my mental history, not a fact of external nature * * * . When I mean to assert anything respecting the ideas, I give them their proper name—I call them ideas: as when I say that a child's idea of a battle is unlike the reality * * * . The notion that what is of primary importance to the logician in a proposition, is the relation between the two *ideas*, corresponding to the subject and predicate (instead of the relation between the two *phenomena* which they respectively express), seems to me one of the most fatal errors ever introduced into the philosophy of Logic, and the principal cause why the theory of the science has made such inconsiderable progress during the last two centuries."

"Logic, according to the conception here formed of it, has no concern with the nature of the act of judging or believing; the consideration of that act, as a phenomenon of the mind, belongs to another science."†

The syllogism consists of three names in three propositions. These three propositions are assertions of fact in regard to the things referred to by the names. Two of the propositions are called premises, and the third a conclusion. The premises being true assertions respecting the things named in them, the conclusion will be a true assertion respecting the things named in it, according to a fundamental law of Logic.

Is this a law of things, or a law of mind?

The premises state two facts. The law is that whenever these two facts coëxist, the fact stated in the conclusion will also exist. The facts may be facts of external nature. The mind finds the premises, brings them together, and thence *discovers* the conclusion. It does not thereby make the conclusion true, but only *finds* it to be so. The fact stated in the conclusion existed as well before the premises were brought together as afterward. The fact in no sense results from, or is caused by, the mental operation whereby it is discovered, but it does result from the coëxistence of the facts stated in the premises, and exists whenever they do. It seems clear, therefore, that the law of the syllogism is a law of things in general, rather than in any sense a mental law. Since, then, names, propositions, and syllogisms, express the subject-matter of Logic, and names express things, propositions, facts concerning things, and syllogisms the application of a law of things, it follows that Logic is a science of things, and not a mental science.

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* Logic, chap. ii.

† Logic, chap. v.

The mental operation which takes place in the application of the law of syllogism to particular things, is reasoning. The principles of Logic were discovered in attempting to classify and reduce to scientific form and certainty the reasonings of men. When reasoning conforms to those principles, and then only, is it valid. Why, then, should Logic not be called the science of reasoning, although it treats of things?

It might be so called, perhaps, if it were understood that in so doing it was not intended to designate reasoning as its subject-matter. In the same way mathematics might be called the science of calculation, because we calculate when we apply the truths of mathematics. But the objection to calling Logic the science of reasoning is, that sciences are usually and properly defined by their subject-matter, and not by the mental operation which takes place in their application; and so when Logic is defined as the science of reasoning, it is supposed that reasoning is its subject-matter, which is, as above shown, a grave and cardinal error; and this tendency of this definition to so mislead is greatly increased by the fact that many logicians have regarded the act or operation of reasoning as the real subject-matter of Logic.

Logic being, then, a science of things, of what things is it the science? That is, what more particularly is the subject-matter of Logic?

Things may be considered as subject-matter of science either in a more extended or more limited of view. In the former, since all that exists, of whatever nature — that is, all possible subject-matter of science—are things; so the science of things might be said to include and be the sum of all the other sciences, i.e. be the whole, of which each other science is simply one of the parts. In this view, the science of things would be considered as taking cognizance of all the qualities of every individual thing in the universe, whether those qualities were possessed by any other thing or not.

A science may, however, take cognizance of those only of the qualities of the individuals composing a class which are strictly common to all the individuals of the class, which each has in common with all the others. Thus, the class being things, such a science would consider those qualities of things only which are common to all things; that is, it would consider things strictly as things, and would leave entirely out of view all the particular qualities which any individual thing, or any particular class of things, has, which are not also qualities of every other thing. This is the more limited view in which things may be the subject-matter of science.

Now, Logic is not the science of things in the former or more extended view, which would include far more than its real subject-matter.

And neither does the latter or more limited view, that is, things as things, adequately express the subject-matter of Logic. For, as the former view included too much, so this includes too little.

The word "things," as above used, is about the most general word possible. Whatever exists is a thing.

Now, things are primarily divided into substances and qualities. Substances are those things that have, so to speak, an independent existence, and upon or through which qualities exist. They are sometimes said to be "beings by themselves." Thus gold is a substance; its color, its density, etc., are its qualities.

Qualities are all things that are not substances. They do not have an independent existence, but only have their being by or through the respective substances to which they belong. Substances are *known* to us only through their qualities, but qualities *exist* only through their substances. Qualities are also called attributes, modes of being, properties, characters, and by many other names.

Now, substances and qualities may be considered as subject-matter of science, in the same way as things, in a more extended or a more limited view. In the latter or more limited view they are the subject-matter of Logic.

Logic is, therefore, the science of substances and qualities as such, and is accordingly conversant about those qualities only of substances which are common to all substances, and not about those which pertain to any substance or substances in their individual or less general capacity, and about those qualities or relations of qualities common to all qualities, and not those belonging only to individual qualities or to particular classes of qualities.

This view frees the science from a mass of irrelevant matter and many erroneous and misleading views, and assigns it, not as heretofore, a subordinate, but a leading position. It stands at the head of all the sciences.

THE SOUL.

By Frederic R. Marvin.

The Soul is its own destiny:
Fate is the Soul in motion:
It hath nor bound of space nor time;
It is the Infinite.
Duration that doth mock all measurement
Becometh conscious — is the everlasting Soul.
Time is a cunning fancy;
The immortal gods
Have wrought the subtle fabric of the hours,
To blind the Soul that looketh out
On its immensity:
But all in vain:
The introverted vision gazes on infinity;
Alone, supreme, the Soul forever dwells.
Empires have birth, they do decay and die;
Advancing years, like phantoms,
Sweep forever down the abyss of time
And slumber on the bosom of Forgetfulness.